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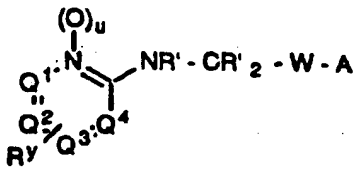
(54) Title: VITRONECTIN RECEPTOR ANTAGONISTS

(57) Abstract



(I)

Compounds of formula (I) are disclosed, wherein: A is a fibrinogen antagonist template; W is a linking moiety of the form -(CHR^s)$_a$-U-(CHR^s)$_b$-V-; Q^1, Q^2, Q^3 and Q^4 are independently N or C-R^y, provided that no more than one of Q^1, Q^2, Q^3 and Q^4 is N; R' is H or C$_{1-6}$alkyl, C$_{3-7}$cycloalkyl-C$_{0-6}$alkyl or Ar-C$_{0-6}$alkyl; R^s is H or C$_{1-6}$alkyl, Het-C$_{0-6}$alkyl, C$_{3-7}$cycloalkyl-C$_{0-6}$alkyl or Ar-C$_{0-6}$alkyl; R^t is R^s, -C(O)R^s or -C(O)OR^s R^1 is H, C$_{1-6}$alkyl, Het-C$_{0-6}$alkyl, C$_{3-7}$cycloalkyl-C$_{0-6}$alkyl, Ar-C$_{0-6}$alkyl, Het-C$_{0-6}$alkyl-U'-C$_{1-6}$alkyl, C$_{3-7}$cycloalkyl-C$_{0-6}$alkyl-U'-C$_{1-6}$alkyl or Ar-C$_{0-6}$alkyl-U'-C$_{1-6}$alkyl; R^y is H, halo, -OR^s, -SR^s, -CN, -NR^{s}R^k, -NO$_2$, -CF$_3$, CF$_3$S(O)$_r$-, -CO$_2$R^s, -COR^s or -CONR$^s_2$, or C$_{1-6}$alkyl optionally substituted by halo, -OR^s, -SR^s, -CN, -NR^{s}R'', -NO$_2$, -CF$_3$, R'S(O)$_3$-, -CO$_2$R^s, -COR^s or -CONR$^s_2$; U and V are absent or CO, CR$^s_2$, C(=CR$^s_2$), S(O)$_c$, O, NR^s, CR^{s}OR^s, CR^s(OR^k)CR$^s_2$, CR$^s_2$CR^s(OR^k), C(O)CR$^s_2$, CR$^s_2$C(O), CONR^i, NR^{i}CO, OC(O), C(O)O, C(S)O, OC(S), C(S)NR^s, NR^{s}C(S), S(O)$_2$NR^s, NR^{s}S(O)$_2$N=N, NR^{s}NR^s, NR^{s}CR$^s_2$, NR^{s}CR$^s_2$, CR$^s_2$O, OCR$^s_2$, CR^s=CR^s, C≡C, Ar or Het; a is 0, 1, 2 or 3; b is 0, 1 or 2; c is 0, 1 or 2; r is 0, 1 or 2; and u is 0 or 1; or pharmaceutically acceptable salts thereof, which are vitronectin receptor antagonists useful in the treatment of osteoporosis.

* (Referred to in PCT Gazette No. 41/1997, Section II)